DHS Science and Technology Directorate

Board Armor® Backboard Cover

Backboards harbor disease

Backboards are a familiar sight in emergency response and are essential in stabilizing patients and protecting them from further injury during transport to emergency rooms.

Unfortunately, standard cleaning techniques and storage methods do not provide adequate sanitization and these backboards often serve as hotbeds of disease and hazardous materials. As a result, this life-saving tool can present a serious threat to both patients and responders.

To eliminate this problem, the Department of Homeland Security Science and Technology Directorate (S&T) partnered with Advanced EMS Designs to develop an ingeniously simple backboard cover to prevent the spread of disease and further contamination of the board.

A responder displays the backboard cover.

Cleaning up backboards

Known as Board Armor®, the backboard cover provides an impermeable barrier between the ill patient and the potentially contaminated board. With an optional, integrated, disposable cervical immobilization device (CID); optional disposable CID straps; and related hardware, the cover reduces contamination and cleaning issues related to reusable CID equipment. The CID is used to stabilize the patient's head in the event of a back or neck injury. Different versions are available to accommodate different backboards and different use scenarios.

The backboard cover can be used in a variety of medical situations, including mass-casualty disasters, weapons of mass destruction events, military operations, and day-to-day transport of patients by emergency medical technicians (EMTs). Once a patient is removed from the backboard, the cover is removed and disposed of, reducing the transfer of disease to the next patient.

First responders test the backboard cover.

Commercially available since October 2011

S&T and Advanced EMS Designs worked together to develop and conduct an operational field assessment of the backboard cover. EMTs tested the cover in an operational environment to ensure it met all requirements and needs, e.g., it fit snugly, was impervious to germs and other contamination from the backboard itself, and did not tear when used. Based on feedback, S&T and Advanced EMS Designs refined the cover, still completing the project within the project time frame of 8 months and within budget ($65,000).

Homeland Security

Science and Technology

To learn more about the Board Armor® Backboard Cover, contact SandTFRG@dhs.gov.

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